2022 IEEE SILCHAR SUBSECTION CONFERENCE

(IEEE SILCON-2022)

November 4-6, 2022 (Hybrid Mode)
Venue: National Institute of Technology Silchar

IEEE SILCON is the flagship annual international conference of the IEEE Silchar Subsection. The IEEE SILCON conference series aims to gain significant interest among researchers, academicians, professionals, and students in the region, covering all the technical areas related to IEEE. The SILCON targets to offer a platform for research collaboration, networking, and presentation of recent research findings in the fields of Computer Science, Electrical Engineering, Electronics & Communication Engineering. IEEE SILCON–2022 is approved by IEEE with Conference Record #55242

National Institute of Technology Silchar

National Institute of Technology (NIT) Silchar, an institute of national importance under the NIT Act, was established in 1967 as Regional Engineering College (REC) Silchar in Assam. In the year 2002, it was upgraded to the status of NIT from REC. The landscape of NIT Silchar is beautiful with natural lakes and hillocks, surrounded by tea gardens. NIT Silchar is a fully residential institution with nine hostels for boys and three hostels for girls. NIT Silchar was ranked 48th among all engineering colleges in India by the National Institutional Ranking Framework (NIRF) in 2021 and the Times Higher Education World University Ranking ranked National Institute of Technology Silchar 801-1000 in 2021 rankings.

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ABOUT US

IEEE Silchar Subsection has geographical reach over higher educational institutions in Assam, Tripura, Mizoram, Manipur, and Nagaland states of the North-Eastern Part of India in respect of activities of IEEE. The subsection works for creating opportunity and space in the line of IEEE mandate to advance technology for the benefit of humanity. The subsection looks at various technical activities, including facilitating Technical Co-Sponsorship for Conferences, conducting Workshops, Technical Seminars, Distinguished Lecture programs, Colloquiums, and other possible technical activities. The subsection is actively engaged in bringing student members into various activities through the student chapters.

IEEE SILCON-2022 is expected to bring together researchers, educators, students, practitioners, technocrats, and policymakers from academia, government, industry, and nongovernmental organizations to discuss, share, and promote current research works and recent research accomplishments across all aspects of electrical, electronic, computer science and instrumentation. With an amalgam of events, e.g., keynote addresses by reputed academicians, high-quality plenary sessions, tutorials, workshops, student paper contests, industry exhibitions, high-quality research demonstrations from the best researchers across the globe, IEEE SILCON-2022 will offer such a platform for networking & knowledge dissemination.

CALL FOR PAPERS

Authors can submit short (4 pages) and regular (max 6 pages) papers that contain original material which is not currently communicated in other conference or journal and has not been previously published.

This 3-day event includes several keynote speeches by distinguished speakers from academia, industry and government sectors; panels and forums; technical sessions featuring technical papers extensively reviewed by peers; workshops focusing on the latest trends in various technology; tutorials delivered by experts in respective disciplines; exhibits; an awards luncheon; and a relaxing and entertaining banquet. Also, there will be dedicated sessions on industry collaborations with academia and Women in Engineering (WIE).

Link for paper submission:
https://edas.info/N29624

The following are the Lead Technical Tracks but not limited to:

TRACK 1: COMMUNICATION AND NET-WORKING

- Wireless Communications & Networks
- Optical Communications & Networks
- Modulation and Coding Techniques
- Ad-hoc & Sensor Networks
- Vehicular Networks
- Internet-of-Things (IoT) Networks
- Cognitive Radio Networks
- Device-to-Device (D2D) Communications
- Social Network aware Wireless Network
- Cryptography and Network Security
- mmWave Communications
- Ultrawideband Communications
- Security and Privacy in Cloud, Edge, Fog and Mobile Computing
- Blockchain Technology for Communication
- Cross-layer designs
- Distributed resource allocation and scheduling
- Multicarrier communication systems
- Cooperative communications
- Underwater communications
- Green telecommunications
- Smart Grid Communications
- Soft computing and its applications to Communications

TRACK 2: SIGNAL PROCESSING

- Image/Video/Multimedia Signal Processing
- Audio/Speech/Natural Language Processing
- Digital and Multi-rate Signal Processing
- Statistical Signal Processing
- Signal Processing Algorithms and Architectures
- Pattern Recognition and Object Tracking
- Compressive Sensing and High-Dimensional Statistics
- Signal Processing in Bio Medical Engineering
- Signal Processing for Communications
- Soft computing and its applications to Signal Processing
- Geoscience and Remote Sensing
- Array Signal Processing
- Human-Computer interfaces
- Biomedical Imaging
- RADAR/Satellite Signal Processing
- ML/DL for Signal/Image/Video Processing

TRACK 3: RF, MICROWAVE, AND MMWAVE

- Antennas, DRAs, MIMO and Massive Antennas, Integrated Antennas
- Radio-wave Propagation and Computation Electromagnetics
- RFICs, MICs and MMICs
- mmWave and THz Systems
- High Frequency Materials and Structures
- Microwave Imaging and Metrology
- RF and Microwaves in Medicine and Biology
- RF Energy Harvesting and Wireless Power Transfer
- High frequency Active components, viz. Amplifiers, Mixers
- EMI & EMC
- Tunable Filters, reconfigurable filters

TRACK 4: MICRO/NANOELECTRONICS DEVICES AND CIRCUITS

- Device Physics and Quantum Electronics
- Compact Device Modeling
- LED, MOSFET, MESFET, Fin FET, TFET
- Beyond CMOS, III-VHEMT, Ga2O3 HEMT, SET, UWB
- Semiconductor Materials and Devices
- 2D Materials: Graphene, Spintronics, Carbon Nanotubes,
- Nanotechnology: Nanowires, Nanostructures,
- Flexible Electronics
- High Efficiency Solar Cells
- Novel Photovoltaic Concepts
- Analog VLSI Circuits
- Digital VLSI Circuits
- Mixed-mode VLSI Circuits
- MEMS and NEMS
- System on Chip (SoC), etc.

TRACK 5: ARTIFICIAL INTELLIGENCE, DATA SCIENCE AND COMPUTING

- Artificial Intelligence, Machine Learning, Deep Learning
- Data Mining, Data Science and Data-Driven Methodology
- Neural Networks
- Fuzzy Logic
- Expert Systems
- Big Data Analytics
- Evolutionary Algorithms and Computational Intelligence
- Natural Language Processing, Linked Data and Semantic Web
- Pattern Recognition
- Image Processing, Video Processing
- Computational and Digital Geometry
- Quantum Computing
- Cloud Computing
- Grid Computing
- Smart City, Smart Agriculture, and Smart Systems, etc.

- Renewable Energy & Energy Storage
- Power Quality
- Grid Tied Systems
- Bidirectional Power Converters
- Power Quality conditioners, HVDC Converters & Control
- Gate drivers, EMI, EMC and Protection, etc.

TRACK 6: SOFTWARE ENGINEERING

- Software Engineering Methods
- Design Patterns and Frameworks
- Software Deployment and Operations
- Service Based Technologies
- Mining Software Repositories
- Automated Software Engineering
- Software Engineering, Artificial Intelligence and ML
- Green Software Engineering, etc.
- Smart Generation, Transmission & Distribution
- Signal Processing Analytics for Power Systems
- Transmission System Technologies, HVDC
- Planning, Operation and Control of Transmission
- Power Engineering Education and Policy Issues
- Dielectrics and Electrical Insulation, etc.

TRACK 7: POWER SYSTEM AND SMART GRID

- Renewable and Green Energy
- Electrical Machines
- Machine Learning & Signal Processing for Power & Energy Applications
- Advanced Power Apparatus
- Active Distribution Network Management
- Control Applications to Power Systems
- Condition Monitoring & Power System Asset Management
- Data Analytics & IoT For Power Systems
- Optimization Problems in Future Grids
- Physical, Cyber & System Security in Power Grids
- Power System Operations, Protection and Stability
- Power System Planning & Reliability
- Power System Restructuring, Economics & Electricity Markets
- Renewable Energy Systems and Their Grid Integration

TRACK 8: POWER ELECTRONICS AND DRIVES

- Power Converters
- Electric Vehicles (EVs)
- Power Electronics for Hybrid and Electric Vehicles
- Power Devices, Components and Magnetic Materials

TRACK 9: CONTROL AND INSTRUMEN-TATION

- Instrumentation and Control Components
- Transducer Principles
- Measurement Techniques
- Analytical and Virtual Instrumentation
- Biomedical Instrumentation and Applications
- Process Control and Instrumentation
- Industrial Automation
- Recent Developments in Automation and Control
- Linear and Nonlinear Control Systems
- Optimization and Optimal Control
- Systems and Automation
- Sampled-Data Control Systems and Digital Control
- Advanced Control Techniques
- Automated Guided Vehicles
- Fault detection and Isolation
- System Identification and Control
- Mathematical Control Theory
- Stochastic Control and Filtering
- Applications of Control Theory in Industry

TRACK 10: HUMANITARIAN TECHNOL-OGY

- COVID-19 Prediction and Modeling
- Product Safety & Reliability Engineering
- Social and Humanitarian Implications of Technology
- Theoretical Computer Science
- Emerging technologies and their applications in education publications, tourism, healthcare, agriculture, etc.

TRACK 11: ENGINEERING EDUCATION

- Engineering Education Reforms
- International Recognition of Qualifications
- New Technologies in Engineering Education
- Industry and Education Collaboration
- Globalization in Education
- Women in Engineering Education
- Changes and Challenges in Engineering Education
- Computer and Web based software

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IMPORTANT DATES

Paper Submission Starts: March 3, 2022

Paper Submission Deadline: ~~June 15~~ June 30, 2022

Paper Decision: August 1, 2022

Final Paper Submission: October 1, 2022

Registration Deadline: October 1, 2022

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